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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A system that facilitates detecting and monitoring temperature gradients on an integrated circuit comprising:

an integrated circuit component having at least two temperature sensing elements formed on a top-side of the integrated circuit component, wherein the integrated circuit component is fully fabricated prior to the temperature sensing elements being formed thereon;

a data receiving component that collects data from the temperature sensing elements;

an analyzing component that analyzes the data collected from the data receiving component to facilitate determining whether the data indicates that at least one area of the circuit component is dissipating a higher amount of heat than another area of the circuit component at any one time; and

a temperature mapping component that generates at least one map comprising at least the data collected from the temperature sensing elements to facilitate determining whether at least a temperature gradient is present on the circuit component.

2. (Original) The system of claim 1, wherein the temperature sensing elements comprise Kelvin resistor structures.

3. (Canceled)

4. (Original) The system of claim 1, the at least two temperature sensing elements comprising a first and a second temperature element wherein the first

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temperature element is positioned at a first location and the second temperature element is positioned at a second location on the circuit component.

5. (Original) The system of claim 4, the first location is different from the second location.
6. (Canceled)
7. (Original) The system of claim 1, the circuit component being put into operation such that the data is collected from the temperature sensing elements during the operation of the circuit component.
8. (Previously presented) The system of claim 1, comprising a plurality of temperature sensing elements arranged in at least one of a random and an orderly pattern.
9. (Original) The system of claim 1, further comprising a visualization component that facilitates visualizing any areas dissipating elevated amounts of heat on the circuit component.
10. (Previously presented) A method for detecting and monitoring temperature gradients on a circuit component comprising:
 - forming a temperature sensing layer on a top-side surface of a fully fabricated integrated circuit;
 - placing the circuit component into operation;
 - collecting data from the temperature sensing layer during the operation of the circuit component;
 - analyzing the data collected to determine whether at least one region of the integrated circuit is dissipating an elevated amount of Joule heat than at least a second region of the integrated circuit at any one time; and

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determining whether at least one temperature gradient is present on the integrated circuit based at least in part upon the collected data.

11. (Original) The method of claim 10, the temperature sensing layer comprising one or more temperature sensing elements.
12. (Original) The method of claim 11, further comprising generating at least one temperature-related map to facilitate visualization of heat dissipation from the integrated circuit.
13. (Canceled)
14. (Previously presented) The method of claim 11, wherein analyzing the data further comprises translating the data collected from the temperature sensing layer into temperature data.
15. (Original) The method of claim 10, further comprising storing the data collected from the temperature sensing layer to a database for future use.
16. (Currently amended) The method of claim 10, wherein the data is collected from the temperature sensing layer at least one time ~~or more~~ during the operation of the circuit component.
17. (Original) The method of claim 16, wherein each time data is collected from the temperature sensing layer, generating a temperature map corresponding to the surface of the integrated circuit to facilitate a user in comparing heat dissipation from the circuit over a time period of operation.
18. (Currently amended) A system for detecting and monitoring temperature gradients on a circuit component comprising:

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a means for temperature sensing on a top-side surface of a fully fabricated integrated circuit, wherein the fully fabricated integrated circuit is fully functioning in its desired capacity prior to temperature sensing;

a means for placing the circuit component into operation;

a means for collecting data from the means for temperature sensing layer during the operation of the circuit component;

a means for analyzing the data collected from the data-receiving component to facilitate determining whether the data indicates that at least one area of the circuit component is dissipating a higher amount of heat than another area of the circuit component at any one time; and

a means for determining whether at least one temperature gradient is present on the integrated circuit based at least in part upon the collected data.

19. (Original) The system of claim 18, the temperature sensing layer comprising one or more temperature sensing elements.

20. (Original) The system of claim 18, further comprising a means for generating at least one temperature-related map to facilitate visualization of heat dissipation from the integrated circuit.

21. (Currently amended) The system of claim 1, wherein the data is collected from the temperature sensing layer at least one time ~~or more~~ during the operation of the circuit component.

22. (Previously presented) The method of claim 11, the one or more temperature sensing elements comprising at least a first and a second temperature element wherein the first temperature element is positioned at a first location and the second temperature element is positioned at a second location on the circuit component.

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23. (Currently amended) The system of claim 1, wherein the temperature sensing ~~element constitutes~~ elements constitute a temperature sensing layer.